ABSTRACT OF THE DISCLOSURE

A system and method for communicating data assigns priorities to different types of traffic based on one or more system conditions. The method includes classifying different kinds of traffic, allocating a priority to each kind of classified traffic, and when data received including different kinds of traffic multiplexing the traffic and the received data and transmitting the data according to the allocated priority. The traffic may be classified into signaling traffic, data traffic, and voice traffic. The data traffic may further be classified as follows: an RLP control frame, an RLP new frame, as well as other RLP frames. The voice traffic may be classified as full-rate voice traffic, half-rate voice traffic, quarter-rate voice traffic, and eighth-rate voice traffic. The method may be further controlled based on the type of multiplexing to be performed. Through this system and method, it is possible to provide good quality SVD (service simultaneous voice and data) by avoiding interruptions in transmissions.